

Amended Patent Claims

1. Method for measuring the oxygen content in a closed target space (10), particularly for monitoring inertization levels in an inert gas device for fire prevention and/or fire extinguishing (15), with the following steps:

a) an air sample is drawn from the target space (10) by means of a series of suction holes (2) of a suction pipe system (1);

b) the oxygen concentration of the drawn air sample is determined by means of an oxygen sensor (3a, 3b),

characterized by

the following steps after step b):

b1) the oxygen concentration in the air sample is determined by a reference oxygen sensor (3b);

b2) the measurement value of the oxygen concentration of the air sample which is determined in step b) is compared to the measurement value of the oxygen concentration of the reference oxygen sensor (3b); and

b3) if the deviation of the measurement value of the oxygen concentration of the oxygen sensor (3a) from the measurement value of the oxygen concentration of the reference oxygen sensor (3b) is exceeded, the oxygen sensor (3a) or the reference oxygen sensor (3b) sends a disturbance signal. [sic]

2. Method according to claim 1,

characterized by

the following additional steps following step b):

c) the measurement value of the oxygen concentration of the air sample is compared in the oxygen sensor (3a, 3b) to fixed threshold values;

d) if the fixed threshold value is exceeded, the oxygen concentration is lowered by means of the infusion of inert gas into the target space (10).

3. Method according to claim 1 or 2,

characterized by

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the following additional steps before or with step b):

b4) fire parameters in the drawn air sample are measured by a detector (4);

b5) if a fire parameter is detected, the detector (4) sends a signal for full inertization of the target space (10).

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4. Method according to claim 3,

characterized in that

the fire parameters that are detected in the detector (4) include smoke in the form of particulates, aerosols, or vapor, and at least one combustion gas.

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5. Method according to claim 4,

characterized in that

the combustion gas detected in the detector (4) is CO or CO₂.

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6. Method according to one of the preceding claims,

characterized by

the following additional steps following step a):

b6) the CO and/or CO₂ content in the drawn air sample are monitored by a CO and/or CO₂ sensor (5);

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b7) fresh air is supplied to the target space (10) in dependence on the measurement value of the CO and/or CO₂ content.

7. Method according to one of the preceding claims,

characterized in that

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the reference oxygen sensor (3b) for determining the oxygen concentration in the air sample is switched on at regular time intervals.

8. Method according to one of the claims 2 to 7,

characterized by

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the following step after step b3):

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5 12. Device according to one of the claims 9 to 11,
characterized in that
at least one of the oxygen sensors (3a, 3b) and/or at least one of the detectors
(4) and/or at least one of the CO or CO₂ sensors (5) are integrated in one of the
suction pipe systems (1).

10 13. Device according to one of the claims 9 to 12,
characterized in that
electrochemical cells of zirconium dioxide are utilized as oxygen sensors (3a,
3b).